

## Finding L and T Dwarf Companions to Nearby Stars using 2MASS

J. D. Kirkpatrick, J. E. Gizis, J. C. Wilson, A. J. Burgasser, and the 2MASS Rare Objects Team

Using 2MASS data, we have uncovered seven L and T dwarf candidate companions to nearby main sequence stars. Five of these (Gliese 337C, Gliese 417B, Gliese 570D, Gliese 584C, and Gliese 618.1B) have been confirmed as companions through common proper motion with their primaries. The other two (HD 89744B and GJ 1048B) lack common proper motion follow-up but have a high statistical likelihood of being physical associations, too. These cool dwarfs fall between 250 and 3600 AU from their host suns. In these systems, the primaries can be used to derive ages which in turn lead to mass estimates for the L and T dwarfs using theoretical evolutionary models. The range of masses thus sampled goes from 35 to 80 Jupiter masses. Based on admittedly small-number statistics, we find that wide brown dwarf companions (beyond 1000 AU separation) occur with higher frequency around main sequence stars than close brown dwarf companions (within 5 AU separation). In other words, there appears to be no "brown dwarf desert" at large separations.